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Firm performance, financial institutions and corporate governance in the Netherlands

Bob Chirinko, Hans van Ees, Harry Garretsen & Elmer Sterken *

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Abstract

This paper analyses the impact of share ownership, creditorship and networking by financial institutions on the performance of 94 Dutch non-financial firms in the period 1992-1996. We find a nonlinear relationship between firm performance and ownership by banks. Because of various defense mechanisms the role of the shareholder is very limited in the Netherlands. Financial institutions are, however, in a position to discipline firm management through other channels. It turns out that there is a direct positive link between share ownership by banks and the firms' short-term bank loans, which indicates the existence of a financing channel. Financial institutions are also represented on the supervisory boards of firms and vice versa, which is an example of networking. This suggests that besides creditorship networking may be an additional disciplinary device for financial institutions. Here we find that there is a significant positive relationship between share ownership by insurance companies and pension funds and the probability of networking.

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1 Introduction

The efficiency of different corporate governance systems has attracted the attention of researchers as well as policy makers in recent years (see Shleifer and Vishny, 1997, and Zingales, 1997, for surveys). There is a special interest in the question whether capital market based systems in the US and the UK or the blockholder/bank based systems in continental Europe and Japan are better suited to monitor corporate management. In the former system the owners of the firm control the firm whereas in the latter system managers have a big say in the control of the firm. Starting from agency theory empirical studies test the relationship between firm performance and governance characteristics. By and large empirical evidence seems to support the hypothesis that owner-controlled firms perform better than manager-controlled firms (see Gugler, 1998, and OECD, 1998).

In this paper we study a special example of corporate governance: the Dutch case. A lot of attention has been given to the German universal bank model (see Emmons and Schmid, 1998, and Boehmer, 1998, for recent information), to which the Dutch model is often compared. In Germany the role of banks is alleged to improve firm performance, although the empirical evidence is mixed (see Edwards and Fischer, 1994, and Emmons and Schmid, 1998). Even if one looks at the early days of the German universal banking model in 1903-1913 there is no clear positive effect of bank relationships (see Fohlin, 1998). The Dutch system of corporate governance can be seen as a mixture of both the capital market-based system and the bank based system. The similarity between the Dutch and German system can be found in the two-tier co-operative system of management and in the role of financial institutions, notably banks, in supplying debt, owning firm equity and being represented on supervisory board of firms. In both countries shareholders are relatively ill protected (see La Porta, et al., 1998). There are some major differences though between the two countries. Firstly, share ownership is more dispersed in the Netherlands and market capitalisation is higher. Secondly, Dutch banks are more concentrated themselves than in the German case and are not involved in proxy voting. Thirdly, other financial institutions like insurance companies are typically larger than their German counterparts and more actively engaged in investing in firms.

This paper proceeds as follows. The main goal of the paper is to test for the effectiveness of the various mechanisms of corporate control. Our main test of the effectiveness will be by regressing firm performance on governance characteristics (see also Becht, 1998). Section 2.1 gives the basic insights in the theory of corporate governance that apply to our case. In Section 2.2 we discuss the Dutch financial

system in some detail and focus on ownership structure and the role of financial institutions. Section 3 introduces the network and ownership variables that are central to our analysis. In Section 4 the main results are presented. Section 5 summarises and concludes.

2 Governance theory and Dutch institutions

2.1 Ownership and control

Berle and Means (1932) famously argued that ownership of firms is typically dispersed among many small shareholders, while control rights are concentrated in the hands of managers. Such a state of affairs implies a principal-agent problem, as suggested by Jensen and Meckling (1976) and Grossman and Hart (1980). Managers of the firm might not act in the interest of the owners. Shleifer and Vishny (1997) argue that a solution to this problem is to give investors control rights. The first way to achieve this is to provide legal protection from expropriation by managers (protection of minority rights, prohibition against insider dealing, etc.). If ownership is dispersed (like in the US and the UK) legal protection is likely to be arranged. This line of thought suggests that the alleged dispersion of ownership is not a hindrance for effective corporate governance as long as legal protection is guaranteed. Empirical evidence though illustrates the opposite. La Porta *et al.* (1999) report extensively on corporate ownership around the world. It appears that in reality concentration of ownership is a world-wide phenomenon (with the notable exceptions of the US and the UK), even if one looks at the largest firms. This points to a second way of dealing with the principal-agent problem: through concentrated ownership. This might be arranged through 1) large minority or blockownership, 2) take-overs and 3) large creditors. In the case of concentrated ownership a second conflict might arise: between the large shareholder and the other shareholders.

Ownership reflects cash flow and/or voting rights. Under a one share/one vote regime both rights coincide. There exists a wide range of institutions that troubles this picture though. Pyramidal structures (like in Belgium, see Renneboog, 1998) special voting rights, voting right restrictions (like in the Netherlands, see Section 2.2), delegated voting (like in Germany), etc. can lead to these problems. Becht (1998) reviews the dispersion-concentration trade-offs for investors. Dispersed ownership with a concentration of voting power which, as we will argue below, is likely to be the most relevant case in the Netherlands, has some advantages, like direct monitoring, liquidity of shares, diversification of risks and a relatively low cost of capital. But there are some disadvantages too: the misalignment of cash flow and control

incentives, possible collusion between managers and blockholders and extraction of private benefits.

The really important question is how ownership and control affect firm performance.¹ Of the three above mentioned channels we only briefly mention the case of take-overs. Outside the US and UK there are simply very few if any hostile take-overs. If take-overs do occur in Germany or the Netherlands Franks and Mayer (1996) show that they are associated with changes in strategy and not with poor performance of management. The second channel is large minority - or blockownership. Here the OECD (1998) finds in his survey that owner controlled firms outperform manager controlled firms. Zeckhauser and Pound (1990) argue that this result depends on the degree of asset specificity of the industry. In industries where outside monitoring is difficult large shareholders are ineffective in overcoming agency problems. For reasons that will become clear in Section 2.2, in this paper we study block ownership in combination with the third channel, creditorship, and in doing so focus on the role of financial institutions. Financial institutions are especially important in a non-market based system of corporate governance.

2.2 Corporate governance in the Netherlands

On January 1st 1997 more than 642 thousand firms were active in the Netherlands. About 2 thousand firms are public limited companies and 134 thousand private limited companies.² The firms listed on the Amsterdam stock exchange (165 firms in 1996) employ about 1.5 million people, which is approximately 25 per cent of the total labour force. Of the listed firms we include 94 firms in our sample. In order to shed some light on the most relevant characteristics of the Dutch financial system in terms of governance, it is useful to distinguish two related issues: the ownership structure and the role of financial institutions in the Netherlands.

2.2.1 Ownership structure We thus only include companies listed on the Amsterdam Exchanges Effectenbeurs N.V., the sole officially approved stock market in

¹Most studies use performance measures based on financial statement data as backward looking data to avoid the forward looking nature of stock prices. Market-based data, although better suited to capture changes in value cannot be used in a cross sectional approach, because any effect of a change in ownership structure would be included in the stock price once the market becomes aware of it (see Boehmer, 1998).

²A public company can issue both bearer and registered shares, while a private limited company can only issue registered shares. A private limited company must limit the free transferability of shares. A public company can issue or buy back shares up to 10 percent without ongoing approval of shareholders.

the Netherlands.³ Market capitalisation of the Amsterdam Stock Exchange is high (117.8 per cent of nominal GDP in 1996). The international firms accounted for about one-third of the market value in 1996. Dutch stock market institutions are somewhat different from the Anglo-American system. Dutch accounting rules are not as strict as the US GAAP *generally accepted accounting principles* and allow various accounting principles across companies.

The EU Transparency Directive 88/627 sets up disclosure requirements for companies listed on a European Union stock exchange. Under Dutch law these requirements are given in the *Wet Melding Zeggenschapsrecht* (WMZ). The first version of this law came into operation on January 1st 1992. A new version was implemented on June 1st 1997. The law requires all shareholders to notify any purchase or sale of share stakes which cross the boundaries of 5, 10, 25, 50 or 66 2/3 per cent of issued capital. This obligation applies to both ownership and voting rights separately. We use these so called WMZ-data in our analysis.

In the Netherlands equity ownership is more concentrated than in the US and the UK but more dispersed than in Germany. De Jong *et al.* (1998) find for the 137 listed firms in 1995 that the average largest stake is about 28 per cent and the second largest stake 9 per cent (see Kabir *et al.*, 1997, for similar findings). Shares are largely held by foreigners (approximately 50 per cent), financial institutions in general do not have large amount of shares (insurance companies and pension funds are somewhat of an exception, as we show later on). Only a few firms are under majority share control (see Cantrijn *et al.*, 1993). This implies that in the Dutch case monitoring of management activities by large shareholders is rare, which might lead to free-rider problems. Furthermore, even if ownership would be (more) concentrated, the existence of several institutional features implies that management is not seriously disciplined by the stock market irrespective of the degree of ownership concentration. Although the stock market demonstrates high liquidity, defence against hostile take-overs is well organised (see hereafter).

Apart from the relative dispersion of share ownership, the limited voting rights of the shareholders is a second relevant feature of ownership in the Dutch case. In the (Anglo-American) market for corporate control shareholders decide on management issues on the annual meeting of shareholders. In the Netherlands the shareholder meeting is from a managerial point-of-view not very relevant, since important deci-

³The listing requirements for a company are: (1) a history of at least five years (in at least three years a profit must have been reported), (2) at least 10 million guilders equity capital (of which at least 10 per cent must be tradable with a market value of again at least 10 million guilders), (3) the firm needs to be a public company (N.V.) or co-operative (like one of the three big Dutch banks in our sample RABObank).

sions cannot be made by shareholders. The Dutch Commission on Corporate Governance (Commissie Corporate Governance, 1998) reviews the instruments to limit the influence of the individual shareholder.

1. The issuing of certificates of deposits through an administrative office (represented by *CERT*). This implies that the voting power remains within the administrative office, since holders of certificates transfer their voting rights. In our sample 36 of the 94 firms use certificates of deposits, as can be seen from the first line of Table 1.
2. Block ownership of the major stakeholder (C_1) over 40 per cent ($C_1 > 40\%$). Of the 94 firms in our sample 21 firms have a large blockowner (see the second line in Table 1).
3. The issuing of priority shares through administrative offices (or sometimes called foundations) (*PRIOR*). 22 of our 94 firms issued priority shares (see the third line of Table 1).
4. Taking up the structural regime. This implies a shift of voting power from the shareholder meeting to the Board of Directors and Supervisory Board. The Dutch system of a control by a Supervisory Board can be characterised by three models (see Gelauff and Den Broeder, 1996), of which the *the structural regime* is the most important one. In our sample 77 out of 94 firms fall within this regime (see Commissie Corporate Governance, 1998).⁴ Of the 77 firms that are under the structural regime 23 do this voluntarily (represented by S_v) and 54 by law (S_l). These two classes are in the fourth and fifth line of Table 1.
5. The issuing of finance prefs ($PREF_f$). This is a rather weak instrument and not considered to be a real powerful instrument to limit voting rights (see Commissie Corporate Governance, 1998). 15 firms in our sample issued finance prefs. See the sixth line in Table 1.
6. The issuing of preference shares held by a continuity foundation ($PREF_d$) as an anti-takeover instrument. 61 of our 94 firms use this instrument. See the last line in Table 1.

In Table 1 we categorize the governance mechanisms.

⁴Some of the remaining 17 firms are under foreign control and fall under the so-called *mitigated structural regime*. The foreign controlling company's general meeting of shareholders approves the annual statement of accounts and composes the management board.

Table 1 *Firm classification following instruments to limit voting power*

Mechanism	$Cert > 50\%$	$0 < CERT < 50\%$	$CERT = 0$	$S_l = 1$	$S_v = 1$	$C_1 > 40\%$
$CERT$	30	6	58	15	8	6
$C_1 > 40\%$	2	4	15	8	4	21
$PRIOR$	3	1	18	13	6	5
S_l	17	3	34	54	0	12
S_v	7	1	15	0	23	4
$PREF_f$	4	0	11	7	5	1
$PREF_d$	22	5	34	38	15	7

Number of firms.

- $CERT$: the percentage of shares issued through certificates;
- C_1 : the largest stake of shareholding;
- $PRIOR$: a dummy variable representing priority share issuing;
- S_l : a dummy variable representing obligatory implementation of the structural regime;
- S_v : a dummy variable representing voluntary implementation of the structural regime;
- $PREF_f$: a dummy variable representing finance prefs issuing;
- $PREF_d$: a dummy variable representing anti-takeover prefs issuing.

In Table 1 the lines represent the instruments and columns denote subclasses. The first three columns subdivide according to the percentage of certification. The fourth and fifth column give cross-tabulations for the structural regime dummy-variables, while the last column does so for large stakeholdings ($C_1 > 40\%$). Table 1 reveals the following. 51 firms have so-called permanent mechanisms to limit voting power: either certification or block ownership (Table 1 reveals that 15 firms without certification do have a large blockowner). There is hardly any block ownership if there is majority certification. The firms that did not issue certificates are under the structural regime to a large extent (49 of the remaining 58 firms, as can be seen from lines 4 and 5 and column 3). Firms with large blockownership use less defensive preference shares. There are only three firms in our sample that have no mechanisms to limit the voting power of external shareholders at all. The largest substitutes are the blockholder concentration and certification (correlation of -0.27), blockholdership and defence preference shares (-0.41) and certification and issuing priority shares (-0.24).

Besides external control by shareholders, there is the issue of internal control (see Morck *et al.*, 1988). This control argument consists of two parts. First, the organisation of control within the firm and secondly, share ownership by insiders. With respect to the first part it is important to point out that Dutch firms, like German firms, operate under a two-tier corporate control mechanism. The management board controls day-to-day operations. The chairman is the most prominent Chief Executive Officer (CEO). In case of the structural regime the presence of a supervisory board is obligatory for limited liability companies with a subscribed capital of 25 million guilders, at least 100 employees in the Netherlands and the presence of a workers council (companies that are a subsidiary of a structural holding are exempted). Under the structural regime the members of supervisory board are appointed by co-optation, *i.e.* members of the incumbent supervisory board elect new members. In practice the management board in practice substantially influences the composition of the supervisory board (Van der Goot and Van het Kaar, 1997). This is a crucial difference with the German case where the shareholders elect the member of the supervisory board. The supervisory board ratifies important managerial decisions and it also determines the annual statement of accounts (it also requires approval by the shareholders meeting). Finally, the supervisory board members may appoint and dismiss members of the management board, although this rarely happens (which is probably not a big surprise given the influence of management on the composition of the board).

Inside share ownership is the second part of inside control. In contrast with the US and in accordance with Germany, inside (managerial) ownership is of less importance

in the Dutch case. De Jong *et al.* (1998) give an overview of inside ownership by members of the board of directors, members of the supervisory board and their family for 25 of the 137 listed firms in 1995 (15 of these 25 firms are in our sample). 6 of these companies are under majority inside ownership. In 5 of these cases the control is fully within the board of directors and one in the supervisory board.

2.2.2 The Role of Financial Institutions Dutch financial institutions (here banks and insurance companies) face no geographical restrictions and engage in industrial investment, the supply of loans as well as in securities activities and the provision of insurance to private agents. Customer relationships between financial institutions (the (house)banks) and firms are usually well-developed and especially banks, mainly through their role as suppliers of bank debt, often take the lead in the financial restructuring of firms. The concentration ratio on the market for banking activities is very high. The five largest banks have a market share of 84 per cent (see Bikker and Groeneveld, 1998). Insurance companies engage in the same activities as banks but their role as creditors is less important. De Bondt (1998) estimates that banks supply up to 80 percent of all firm credit whereas other financial institutions like insurance companies supply the remaining 20 percent. Pension funds represent the third important type of financial institution in our analysis in Section 4. They are most like a US type of institutional investors which means that they predominantly engage in share ownership. In the Netherlands pension funds are, however, also involved in the provision of (long term) debt to firms.

German banks serve three roles: they do not only supply debt, but also own equity and are members of the supervisory board. While it is true that Dutch banks also perform these three tasks, there are notable differences with the German case with respect to ownership and supervision. Until 1992 banks were not allowed to have more than 5 per cent of the outstanding shares of a firm and even now banks are relatively unimportant as shareholders. De Jong *et al.* (1998) report that for the 137 listed firms in 1996 banks held 7.2 per cent of the shares, insurance companies about 2.4 per cent, pension funds 0.6 per cent, other financial institutions 15.5 per cent, the government 1.3 per cent, industrial firms 10.6 per cent and individuals 10.8 per cent (these numbers are based on the WMZ-data which means that only stakes of 5 percent or more are included). Apart from their role as shareholder and creditor, both of which are mechanisms of outside control, financial institutions, banks and other financial institutions are also linked with firms through their representation on supervisory boards (and firms on the supervisory boards of financial institutions). This linkage or networking channel does to some extent function as a means of (informal) inside control. So the notion of networking between banks and firms on

the level of management/supervisory board could be important in the Netherlands from a corporate governance perspective since it provides banks and other financial institutions with the opportunity to gather information about a firm and to exercise some (informal) control. This might be relevant given the absence of the ownership mechanism of control due to the small holdings of stocks as well as the existing defence mechanisms.⁵

In the case of the Netherlands appointments on the supervisory board can be seen from two points of view of information economics. First, the firm may want to appoint "high quality/high profile" supervisors to signal quality of management. To that purpose they appoint captains of industry, well-known advisors or managers from other companies of financial institutions. The main motive is a strategic advertising one and not so much focused on direct quality of control. Secondly, a firm does not want a supervisory board that controls the operations of the firm. A high quality firm does not mind if the supervisory board interacts with the management if high quality implies acting in the interest of the shareholders/supervisors anyway. Low quality managers, however, may want to appoint friends in order to prevent low quality of their management being revealed (and eventually corrected). In this case low quality management appoints low quality control. Knowing this, the system of co-optation may increase risk-averse behaviour of companies. Note that in the Dutch system the quality of the supervision may thus simply reflect the quality of management. This is all right as long as firms perform well but it can cause real problems if changes in firms policies are called for (see also CPB, 1997, we return to this issue in Section 4 in our discussion of the causation between firms' performance and the quality of supervision). As shareholders have little influence on management given the array of defence mechanisms at the disposal of firms (OECD, 1996, p. 88), the Dutch model puts weight on creditors (notably banks since bank debt is the most popular source of external finance), who promote risk-averse strategies and on informal linkages or networking through the cross-representation on supervisory boards of financial institutions and firms.

2.3 Hypotheses on Dutch corporate governance

We start from the agency cost perspective to formulate our hypotheses (see Shleifer and Vishny, 1997). From the previous sections it is clear that in the Netherlands banks and other financial institutions may play an important role in Dutch corporate governance. Financial institutions (see De Bondt, 1998), might be important mainly be-

⁵The big difference between the German and the Dutch financial institutions, is that German banks benefit from the system of proxy voting, while this is not the case in the Netherlands.

cause of their roles as suppliers of debt and member of informal networks with respect to the composition of supervisory boards. Share ownership is not concentrated, but both banks and other financial institutions (in our sample: insurance companies and pension funds) have increased their share ownership in the recent years. Since there is hardly any possibility for hostile take-overs, due to defence mechanisms, direct influence of shareholders is limited. Voting is often concentrated in a trust office that is closely linked with the firm. Nevertheless, financial institutions (holding about 10 per cent on average of total equity of the listed firms) are obviously concerned about firm policy. A first question is whether and how firm performance and share ownership by financial institutions are related. If there is any relationship at all, the next question is how financial institutions might be able to exert control on managers. With respect to this second question two issues are investigated: the relationship between share ownership by financial institutions and the financial structure of firms and also the relationship between this ownership and networking.

2.3.1 Share ownership by financial institutions and firm performance If share ownership by financial institutions is 5 per cent or more (like in our sample), part of the agency costs of control will be reduced, since the bank may monitor firm activity. But a new conflict arises: between the financial institution, as a block shareholder, and other minority/small shareholders. The question is whether or not financial institutions use their influence in a way that also benefits other shareholders, or more general firm performance. Here we follow Gorton and Schmid (1996) and define three hypotheses:

1. The *coincidence-of-interests* hypothesis: The more equity the financial institution holds, the more it uses its information and power to monitor the firm's management, thereby improving firm performance. The creation of an internal capital market reduces information asymmetries, which stimulates firm performance. Moreover financial institutions can create buffers to shield firms for shocks. If this hypothesis holds firm performance increases monotonically with share ownership by financial institutions;
2. The *opposed-interests* hypothesis: Financial institutions, notably banks, behave as monopolists, using their power (as the sole supplier of external finance) to extract profits from the firm at the expense of firm performance. Although in some cases this might even be in the interest of the firm, for instance the firm's tax shield might increase, in general firm performance will decrease monotonically with share ownership by financial institutions;

3. The *insider* hypothesis (a combination of the first two hypotheses): The financial institution faces a trade-off between its private benefits (monopoly profits or private returns to bank managers) and the value of its shares. If financial institutions play the role of insiders the managerial ownership theory becomes relevant (see below).

Cable (1985) tested part of these hypotheses for Germany. He did find support for a positive impact of shareholder concentration and bank voting power on firm performance.⁶ Gorton and Schmid (1996) extend the Cable database and also find for their 1974-sample a positive relationship between bank ownership and performance, but for their 1985-sample of firms there is no relationship at all. For Germany Emmons and Schmid (1998) find support for a U-shaped relationship between firm performance and share ownership by banks, thereby confirming the third hypothesis. In our analysis we will be mainly interested with the question whether share ownership by financial institutions has any impact at all on firm performance. It should be emphasized that is not our aim to validate or reject any of the three above mentioned hypotheses. If it does turn out that share ownership matters, we then would like to know whether and how financial institutions are able to engage in corporate governance in the Dutch case. Given that outside control by shareholders is not feasible, we investigate two alternative control mechanisms: large creditorship and networking.

2.3.2 Large creditorship If banks and other financial institutions supply credit to a firm, financial institutions can exercise control through this financing channel. Firms typically do not want to reveal all information to the market and stick with private loan contracts. The bank can monitor the firm activities, demand audits and even impose penalty payments. In this way large creditors can be able to engage in corporate governance (Shleifer and Vishny, 1997). In the Dutch case this can be a relevant control mechanism since control by shareholders is ill-developed for the reasons discussed in Section 2.2.

2.3.3 Networking If financial institutions are blockowners there might be an incentive to act as an insider. Being an insider the financial institution can monitor the firm better and act in the interest of small shareholders. But it can also try to distract funds from the firm once it is an insider. Edwards and Fischer (1994) test the hypothesis that banks use their proxy votes to install their own representatives

⁶Cable's paper is seriously criticised by Emmons and Schmid. Cable uses control data of 1975 to test firm performance over 1968-1972 and reverts causality. Moreover the statistical definition of performance is sloppy.

on supervisory boards and reject it. Gorton and Schmid (1996) find the opposite: ownership does translate into supervisory board representation.

If financial institutions can be looked upon as insiders in the Dutch financial system, the literature on inside or managerial ownership becomes relevant. If insiders are blockholders themselves entrenchment is a possibility. The insiders (managers or in our case financial institutions) control a substantial fraction of the firm's equity and have enough power to primarily look after their own interests (as opposed to those of outsiders). Stulz (1988) presents a theoretical model of the role of inside ownership. Inside ownership increases the premium that a hostile bidder must pay to gain control, but the probability that a take-over will succeed decreases. Managerial ownership reduces the agency costs through lower costs of monitoring. But large managerial ownership lacks diversification, might lead to excessive risk taking and tempts managers to act in their own interest. Morck *et al.* (1988) find empirical support for this model. They argue that managers will allocate resources in their own interest, but if inside ownership increases their interest will coincide with outside owners. In the 0-5 per cent range they find a positive influence, but the sign turns negative in the 5-25 percent interval. If managerial ownership is over 25 percent there is positive influence again. Demsetz (1983) argues that there is no relation between ownership structure and profitability, since the firm's organisation is an endogenous outcome of competitive selection.

To summarise, we formulate three classes of hypotheses.

1. The first class involves the relationship between share ownership by financial institutions and firm performance. We test for the impact of share ownership by financial institutions on nonfinancial firm performance. In line with Gorton and Schmid (1996) we test the coinciding, conflicting and insider hypothesis.
2. The second class of hypotheses concerns financial policy. Here we focus on financial structure and the influence of financial institutions through share ownership on the financial structure. We expect that bank ownership might be related with the financing channel, while ownership by other financial institutions will typically be related with long-term financing.
3. The third set of hypotheses deals with the determination of networking. We expect that banks perform control through the supply of credit, while the other financial institutions do use networking as a control mechanism.

3 Data description

We use data from various sources. For the balance sheet and Income and loss-statement variables we use the AMADEUS-dataset⁷ and the *Handboek Beursgenoteerde Ondernemingen*, published by *Het Financieele Dagblad* for the years 1992 up to and including 1996. The latter source is used for market values, dividends and short-term bank loans, since these are not included in AMADEUS. AMADEUS includes data on 165 listed firms. We focus on manufacturing firms and skip firms involved in services. Moreover, since we are constructing a cross-section we want a balanced set. The latter implies that firms in mergers and take-overs are excluded. Finally we include firms that register their activity within the Netherlands only, which excludes Royal Dutch Shell, the largest company in terms of total assets. In the final sample we have 94 industrial firms.

Below we give a statistical description of our sample. For the sample firms we compute from the balance sheet and income/loss statement:

- $FIXED$ = material assets minus depreciation as a percentage of total assets. Note that we do not include intangible assets.
- $IKGROSS$ = gross investment over the 1991 capital stock.
- $LEVERAGE$ = the difference between total assets and equity as a fraction of total assets.
- $LTDEBT$ = total assets minus equity minus other short-term debt as a percentage of total assets.
- $BDTOT$ = Short-term bank loans as a percentage from total assets. Note that we only include short-term bank loans here, since no information on long-term bank loans is available. Moreover, we have no indication of the fraction of secured loans.
- FE = financial expense as a percentage of total assets.
- TA = total assets minus depreciation.
- CF = cash-flow plus depreciation.
- $cv(CF)$ = coefficient of variation of CFA ($cv(x) = stdev(x)/abs(mean(x))$).

⁷AMADEUS is a dataset covering over 200000 firms in Europe. REACH is the Dutch variant of AMADEUS.

- $DIVCF$ = dividend over cashflow.
- $INTCF$ = interest payments over cashflow.
- ROA = return on assets: before-tax profits plus financial expense as a percentage of total assets.
- $cv(SAL)$ = coefficient of variation of sales ($cv(x) = stdev(x)/abs(mean(x))$).

For the control/network variables we use the following sources and definitions:

1. *Wet Melding Zeggenschapsrecht* (WMZ). From 1992 onwards this law requires shareholders to publicly report their shareholdings if their stake holdings in a listed firm crosses the bands of 5, 10, 25, 50 and 66 2/3 per cent. The Dutch financial newspaper *Het Financieele Dagblad* publishes this report annually. This information gives share holdings over 5 per cent and it also limits our sample-period. Also voting shares are published if they are over 5 per cent. We compute share holdings by banks ($BANK$), insurance companies (INS), pension funds ($PENF$) and the sums $FI = BANK + INS + PENF$ and $PINS = PENF + INS$.

There are a few words of caution in using the WMZ-dataset. First there is a statistical problem regarding the total capital outstanding. It might be that an owner of shares is ill-informed on the denominator of its share percentage due to option plans, take-overs and stock dividends. Secondly, it might also be the case that large shareholdings for companies started after 1992 are not listed. Thirdly, it could be that banks (briefly) hold involuntary amounts of shares after they led an new share issue and kept these shares on the shelf. Still, despite these disadvantages the WMZ-data are very useful and they are the only data source available with respect to share ownership of individual Dutch firms.

2. From the report published by the Commission on Corporate Governance we retrieved the following information:
 - S_l : a dummy variable representing obligatory implementation of the structural regime;
 - S_v : a dummy variable representing voluntary implementation of the structural regime;
 - C_1 : the largest stake of shareholding;
 - $CERT$: the percentage of shares issued through certificates;

- $PRIOR$: a dummy variable representing priority share issuing;
 - $PREF_f$: a dummy variable representing finance prefs issuing;
 - $PREF_d$: a dummy variable representing anti-takeover prefs issuing.
3. From AMADEUS (or REACH) an indicator on diversification of firm activity is calculated (DI). We define this indicator as the percentage of 2-digit industry activities in which the company is involved outside its core business. It is known that diversification can have a negative impact on both inside and outside equity ownership (see Denis *et al.*, 1997).
4. As a source for the network variables we used the *Jaarboek van Nederlandse Ondernemingen* to compute the following variables with respect to the composition of the management and supervisory boards.⁸
- $NETAB = 1$ if a member of the management board of a financial institution/firm is a member of the supervisory board of the firm/financial institution, and 0 if not (13 cases out of 94).
 - $NETC = 1$, if a member of a supervisory board of a financial institution is also a member of a supervisory board of the firm, and 0 if not (14 cases out of 94).
 - $NET = 1$ if there exists any informal link between a firm and financial institution, either through the board of directors or the advisory board.
 - RVB : the number of members of the board of directors.
 - RVC : the number of members of the supervisory board.

In order to give an impression of the ownership and control data we give the sample means (μ), median value (med) and standard deviation σ in Table 2. These average values indicate no abnormal values for corporate activity. It is important to note that the values are averages of ratios and no ratios of averages (except for the dividend-to-cashflow and interest-to-cash flow). The values in Table 2 for the variables which represent share ownership by financial institutions ($BANK$, $PENF$, INS and FI) are in line with Kabir *et al.* (1997) and Van Oijen (1998). Share ownership by banks is on average the highest. A main reason for this is the important merger wave in the beginning of the 1990s between private banks and insurance companies. These financial conglomerates are labeled as banks in our sample. Pension funds have

⁸Note that we used annual reports of the RABObank, on the Big three Dutch banks, for the years 1992-1996 as additional information since the RABObank is a co-operative and not a listed company

relatively low shareholdings in our data, which is due to the 5 percent threshold in the WMZ-data.

4 Empirical Specification and Results

Our results refer to cross-section (1992-1996) estimations of models that include as independent variable besides share ownership also variables that condition for *normal* performance, financial or networking variables. We test our hypotheses, starting with the relationship between share ownership and firm performance. Again it should be emphasized that we are only interested in the question whether share ownership by financial institutions matters at all for firm performance and not in the specific shape of this relationship. We first tested for a linear relationship. The results given in Table 3 show for all our three models (to be listed hereafter) that there is no significant impact of share ownership in a linear model (see the separate lines in Table 3), which implies a rejection of both the coincidence and opposed hypothesis mentioned in Section 2.3. Next we use a simple nonlinear (quadratic) structure to estimate the insider hypothesis:

$$ROA_i = \alpha_0 + \alpha_1 SH_i + \alpha_2 SH_i^2 + \sum \beta_{ji} C_{ji} + \sum \gamma_{ji} d_{ji} + \sum \delta_{ij} v_{ij} + \epsilon_i \quad (1)$$

where ROA denotes profitability (measured as return on assets), SH denotes either *BANK*-share, *PINS*-share or *FI*-share, C_j is a conditioning variable, d_j a dummy denoting the membership of an industry class, v_{ij} a variable indicating the limitation of voting power or other disciplining instrument active (S_l , S_v , C_1 , $CERT$, $PRIOR$, $PREF_f$ or $PREF_d$) and ϵ a white-noise error term. As conditioning variables we use size ($\ln(TA)$), leverage $LEVER$, diversity (DI) and the ratio of cash-flow to total assets (CF/TA). We include the suggested other means of governance as regressors too. Implicitly we assume that SH is an exogenous variable. Financial institutions often own shares for other reasons than the standard portfolio considerations. The involvement of these institutions in the underwriting of share issues, financial restructuring or legal guidelines as to their investment strategies as with pension funds, implies that for financial institutions the portfolio argument is less important than for other investors (see Gorton and Schmid, 1996, p. 13 for Germany and de Jong *et al.*, 1998 for the Netherlands for a similar conclusion).

First we conclude that we can reject the linear ownership relation for financial institutions. For banks we find support for a nonlinear relationship. We find an optimum bank share holding of about 14 per cent, which is far above the average in our

Table 2 *Descriptive statistics*

Variable	μ	<i>med</i>	σ
<i>FIXED</i>	31.64	31.10	15.80
<i>IKGROSS</i>	27.73	23.68	19.20
<i>LEVERAGE</i>	69.54	62.10	12.29
<i>LTDEBT</i>	11.74	10.50	9.57
<i>BANKDEBT</i>	19.19	5.98	112.20
<i>FE</i>	3.14	2.88	2.20
<i>TA</i> (10^6 gld)	2278.82	402.44	7081.24
<i>CF</i> (10^6 gld)	404.75	78.35	1207.94
<i>CF/TA</i>	17.16	16.41	6.41
<i>cv(CF)</i>	0.29	0.22	0.28
<i>DIVCF</i>	17.55	13.05	18.92
<i>INTCF</i>	14.02	12.41	12.71
<i>ROA</i>	9.74	9.21	4.75
<i>cv(SALES)</i>	0.18	0.13	0.13
<i>BANK</i>	5.34	3.05	7.55
<i>PENF</i>	0.49	0	1.62
<i>INS</i>	3.90	0.56	5.08
<i>FI</i>	9.73	6.91	9.88
<i>S_l</i>	0.58	1.00	0.50
<i>S_v</i>	0.24	0.00	0.43
<i>C₁</i>	25.12	15.00	21.92
<i>CERT</i>	31.45	0.00	42.52
<i>PRIOR</i>	0.24	0.00	0.43
<i>PREF_f</i>	0.16	0.00	0.37
<i>PREF_d</i>	0.66	1.00	0.48
<i>RVB</i>	2.95	3	1.53
<i>RVC</i>	4.95	5	1.83
<i>DI</i>	1.99	1.70	2.04

sample of 5.34 percent.⁹ It should be kept in mind that in the class of banks some large conglomerates, including insurance branches, are included. Up to a certain level share ownership by banks has a strong positive effect on firm performance. For insurance companies and pension funds (*PINS*) and the sum of all financial institutions (*FI*) we find less significant results for the quadratic relationship.¹⁰ Apparently the ex ante risk taking, the ex post monitoring and state verification stimulate profitability for firms. It should be noted that our definition of profitability includes financial expenses. It might be so that if a financial institution has a large ownership, it reduces the interest burden, which reduces profitability by definition in our case. It is more likely though that a large financial owner is able to put pressure on its own interests over the other minority shareholders. We test for this effect separately in our second class of models. Summarizing, we find support for the insider hypothesis, as put forward by Gorton and Schmid (1996). There is a difference with the latter study though, since we find evidence for a hump-shaped relationship instead of a U-curve. The shape of our relationship is more in line with the one found by Morck *et al.* (1988) for inside ownership. This supports the idea that Dutch financial institutions might act as insiders. We return to this issue below. A final remark should be made with respect to the conditioning variables. Here we only find evidence for a strong negative impact of leverage on firm performance.

Given the result that share ownership by financial institutions matters for firm performance and also given that shareholders are not able to exercise control in the case of the Netherlands, we now address the question as to which channels of influence might be used by financial institutions in order to guard their interests as shareholders. As argued in Section 2.3 we investigate two channels of influence: creditorship and networking. We first discuss creditorship as an alternative means to discipline managers. A creditor might be powerful when a firm defaults or violates debt contracts. If debt is mainly short-term, firms have to come back on a regular basis. Moreover a bank is a natural institution to monitor firm activities. In case of bankruptcy a bank is often responsible for the change of management. The effectiveness of creditors depends on the legal rights they have. We use the share of short-term bank debt of total assets, the share of long-term debt of total assets and financial expense as percentage of total assets as financial ratios. By doing so, we

⁹If one has a close look at the distribution of *BANK* one can observe mass in the 0 to 5 per cent interval and some observations around 20 percent ownership. Finding the quadratic relationship might therefore be based on the location of outliers. There are two serious outliers for *BANK* (observations around 40 percent ownership with low profitability). If we exclude these two firms from the regressions we still find a significant optimum of the quadratic of 12 percent ownership.

¹⁰We also tested the influence of networking on firm performance and find no relationship.

Table 3 *Profitability: the impact of ownership*

Financial institution Model	BANK (1)	PINS (2)	FI (3)
<hr/>			
Equity ownership			
<hr/>			
- linear	0.311 (0.129)	0.431 (0.225)	0.188 (0.122)
- quadratic	-0.011 (0.004)	-0.022 (0.014)	-0.005 (0.004)
<hr/>			
(only linear term)	-0.031 (0.072)	0.116 (0.082)	0.012 (0.048)
<hr/>			
Conditioning variables			
<hr/>			
$\ln(TA)$	0.357 (0.280)	0.461 (0.301)	0.457 (0.288)
<i>LEVERAGE</i>	-3.596 (3.866)	-0.428 (4.021)	-2.245 (4.045)
<i>DI</i>	-0.213 (0.254)	-0.192 (0.270)	-0.200 (0.261)
<i>CF/TA</i>	0.241 (0.066)	0.257 (0.065)	0.248 (0.068)
<hr/>			
Governance variables			
<hr/>			
S_l	-0.274 (0.891)	-0.341 (0.920)	-0.257 (0.925)
S_v	2.574 (1.248)	2.502 (1.401)	2.576 (1.317)
C_1	0.025 (0.024)	0.015 (0.024)	0.020 (0.025)
<i>CERT</i>	0.024 (0.010)	0.026 (0.021)	0.026 (0.011)
<i>PRIOR</i>	2.297 (1.130)	2.621 (1.162)	2.452 (1.172)
$PREF_f$	-1.611 (1.068)	-1.948 (1.038)	-1.609 (1.064)
$PREF_p$	1.005 (0.850)	1.022 (0.916)	0.942 (0.951)
<hr/>			
\bar{R}^2	0.427	0.385	0.379
F	4.427	3.884	3.807

Robust White estimation. Industry dummies not reported.

look upon the financial structure as being endogenous. As conditioning variables we use size, the share of material assets in total assets, gross investment, the coefficient of variation of cash flow, cash flow over total assets and the diversity index. We also include the instruments to limit voting power. The model estimated reads:

$$FC_i = \alpha_0 + \alpha_1 SH_i + \Sigma \beta_{ji} C_{ji} + \Sigma \gamma_{ji} d_{ji} + \Sigma \delta_{ij} v_{ij} + \epsilon_i \quad (2)$$

where FC denotes the financial indicator: bankdebt $BDTOT$, or long-term debt $LTDEBT$, or financial expenses FE . SH denotes either $BANK$ -share ownership or $PINS$ -share ownership, C_j is a conditioning variable and d_j an industry dummy, v_j the variable indicating a limitation of voting power and ϵ a white-noise error term. From Table 4 it can be seen that bank ownership stimulates short-term bank lending.¹¹ Our results are in line with the hypothesis that banks like to have control through ownership and supply of funds. It should be noted, however, that our FC -variables cannot be linked to individual financial institutions, since these data are not available. Insofar there is a financing channel we can only observe this on the group-level. Bank ownership has no relationship with long-term funding. The table shows that financial ownership is not relevant for financial expenses, which supports our findings for the profitability measure in Table 3. There is no significant relationship between $PINS$ and our financial variables, which can be thought of as an illustration of the fact that insurance companies and pension funds are less important when it comes to the supply of debt. For the voting power variables we observe that the issuing of finance prefs leads to lower short-term bank credit and more long-term debt. The remaining voting variables are all insignificant in explaining financial structure.

We finally turn to networking as a control device. If we find evidence of demand for networking by financial institutions we can see this as an alternative means of control, *i.e.* an example of inside control. As dependent variable we take the variable $NETAB$, which means that we only look at informal networking if the financial institution (firm) representative on the supervisory board of a firm (financial institution) sits on the management board herself. We estimate the impact of financial ownership on the probability of a network relation. We expect that if we correct for other control devices, such as interest and dividend outlays and the credit channel, networking would be relevant for financial institutions, in the sense that share ownership SH increases the probability of networking. The model reads:

$$prob(NETAB = 1) = \alpha_0 + \alpha_1 SH_i + \Sigma \beta_{ji} C_{ij} + \Sigma \delta_{ji} AC_{ji} + \Sigma \gamma_{ji} d_{ji} + \epsilon_i \quad (3)$$

¹¹The firms *Burgman Heybroek* and *Koppelpoort* are excluded in the regressions due to outliers in the bank-debt variable.

Table 4 *Financing channel: the impact of ownership*

Institution Model	BANK (1)	BANK (2)	BANK (3)	PINS (4)	PINS (5)	PINS (6)
Item	<i>BDTOT</i>	<i>LTDEBT</i>	<i>FE</i>	<i>BDTOT</i>	<i>LTDEBT</i>	<i>FE</i>
Equity ownership						
- linear	2.496 (0.969)	0.055 (0.095)	-0.012 (0.026)	-2.213 (1.552)	-0.146 (0.188)	-0.055 (0.048)
Conditioning variables						
<i>ln(TA)</i>	-3.694 (6.030)	-0.104 (0.596)	-0.372 (0.185)	-5.791 (6.409)	-0.210 (0.601)	-0.414 (0.185)
<i>FIXED</i>	83.984 (75.925)	35.822 (5.599)	-2.921 (1.947)	62.535 (78.648)	35.139 (5.618)	-2.941 (1.987)
<i>IKGROSS</i>	-0.339 (0.430)	-0.002 (0.048)	-0.005 (0.022)	-0.586 (0.422)	-0.004 (0.049)	-0.002 (0.021)
<i>cv(SAL)</i>	123.644 (59.798)	2.019 (6.811)	-0.573 (2.248)	100.421 (61.292)	0.627 (7.312)	-0.132 (2.216)
<i>CF/TA</i>	-2.277 (1.730)	-0.152 (0.144)	-0.032 (0.046)	-2.407 (1.855)	-0.161 (0.139)	-0.037 (0.044)
<i>DI</i>	-0.302 (5.239)	0.507 (0.521)	0.034 (0.134)	-2.288 (5.219)	0.457 (0.516)	0.044 (0.133)
Governance variables						
<i>S_l</i>	-37.455 (32.198)	-0.171 (2.373)	-0.983 (0.744)	-35.606 (33.623)	-1.472 (2.369)	-0.895 (0.733)
<i>S_v</i>	-43.634 (32.945)	-0.090 (3.286)	-0.213 (0.874)	-33.351 (34.724)	0.341 (3.254)	0.263 (0.847)
<i>C₁</i>	-0.179 (0.373)	-0.012 (0.037)	-0.013 (0.011)	-0.338 (0.372)	-0.021 (0.039)	-0.015 (0.011)
<i>CERT</i>	-0.061 (0.195)	-0.042 (0.023)	-0.004 (0.006)	-0.092 (0.197)	-0.042 (0.023)	-0.003 (0.006)
<i>PRIOR</i>	-11.322 (17.495)	-0.890 (2.155)	-0.140 (0.662)	-21.028 (16.218)	-1.102 (2.071)	-0.101 (0.651)
<i>PREF_f</i>	-41.655 (20.610)	5.140 (2.448)	0.353 (0.673)	-30.021 (20.257)	5.609 (2.509)	0.449 (0.643)
<i>PREF_p</i>	-3.813 (17.028)	-1.565 (1.837)	-0.754 (0.531)	-5.872 (16.722)	-1.676 (1.862)	-0.813 (0.526)
\bar{R}^2	0.109	0.399	0.026	0.066	0.404	0.042
<i>F</i>	1.526	4.779	1.118	1.303	3.968	1.194

Robust White standard errors in parentheses. Industry dummies not reported.

where *NETAB* denotes the networking variable, *SH* denotes either *FI*-share ownership, *BANK*-share ownership or *PINS*-share ownership, C_j is a conditioning variable, AC_j an alternative control variable, d_j an industry dummy and ϵ a white-noise error term. The alternative control or governance variables are the interest and dividend to cash flow and short-term bank loans as a percentage of total assets.¹² The conditioning variables are size, the size of the supervisory board (which is a scale indicator), the diversity index and cash flow uncertainty. Table 5 gives the results. It shows that only share holdings by insurance companies and pension funds (*PINS*) have a significant impact on the probability of a networking relation. For the group of financial institutions as a whole ($FI = BANK + PINS$) share ownership does not have a significant impact on the probability of networking through the supervisory board. A similar conclusion is reached if one only looks at share ownership by banks. The above mentioned significant (positive) *PINS*-coefficient is interesting because it complements our findings on the relationship between the financial structure of firms and share ownership as measured by *PINS* in table 5. Non-bank financial institutions are less important as creditors than banks and the only control device left for these institutions might thus be networking.

5 Summary

In this paper we analyse the relationship between firm performance, financial ownership and networking in the Netherlands. The Dutch system of corporate governance differs from its Anglo-Saxon and German counterparts. First there are rather widespread methods to limit voting power of shareholders. Secondly, the structural regime puts a lot of weight on the role of the supervisory board.

Overall, we find evidence to substantiate the idea that share ownership by financial institutions is important in Dutch corporate governance. In line with the terminology used by Shleifer and Vishny (1997) we find a role for share ownership by financial institutions, specially bank conglomerates, (since it affects firm performance) and indirectly for large creditors and for inside control through networking (both are affected to some extent by share ownership by financial institutions).

Although financial ownership is limited the special legal structures surrounding Dutch public firms makes that financial institutions like to control managers in a number of ways. This is in line with the recent discussion on corporate governance in

¹²We also included all the variables indicating a limitation of voting power. These all turned out to be highly insignificant. In order to save degrees of freedom we skipped them in the final regressions.

Table 5 *Networking channel*

Institution	FI	BANK	PINS
Equity ownership			
- linear	0.048 (0.031)	0.036 (0.046)	0.164 (0.076)
Alternative governance			
<i>INTCF</i>	-0.094 (0.056)	-0.089 (0.058)	-0.096 (0.049)
<i>DIVCF</i>	0.039 (0.017)	0.037 (0.017)	0.045 (0.017)
<i>BDTOT</i>	3.703 (7.192)	3.852 (7.148)	
Conditioning variables			
<i>TA</i>	0.281 (0.365)	0.258 (0.348)	0.392 (0.386)
$\log(RVC)$	3.063 (1.807)	2.827 (1.743)	3.348 (1.899)
<i>DI</i>	0.270 (0.231)	0.233 (0.222)	0.346 (0.239)
<i>cv(CF)</i>	2.000 (1.705)	1.570 (1.612)	2.574 (1.850)
loglikelihood	-19.246	-20.210	-17.920
Binary probit estimation. Industry dummies not reported.			

the Netherlands, where large institutional investors dominate the discussion to give more voting power to the shareholders.

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